

IN THE CLAIMS

Please amend the claims as follows.

For the Examiner's convenience, a list of all claims is included below.

1-18 (Canceled)

19. (Currently amended) A process of fabricating a microelectronic package, comprising:
providing a die affixed to a carrier substrate, the substrate having formed therein a through-hole extending from a first exterior surface to a second exterior surface of the substrate, the through-hole configured to allow the flow of an underfill encapsulation material into a gap between the die, the substrate, and the heat spreader; and
coupling a heat spreader to the backside of the die using heat conductive adhesive, the heat spreader including a plurality of pillars surrounding the die to shift thermally induced stress away from the corners and edges of the die to the pillars of the heat spreader; and
dispensing of an underfill encapsulation material through the through-hole such that the underfill encapsulation material flows into a gap between the die, the heat spreader, and the substrate.

20. (Original) The process of Claim 19 wherein providing the die affixed to the carrier substrate comprises a die affixed to the substrate with a plurality of solder balls disposed on an active surface of the die aligned with a plurality of bond pads disposed on an active surface of the substrate.

21. (Original) The process of Claim 19 wherein providing the die affixed to the carrier substrate comprises providing a carrier substrate made of organic or ceramic material.
22. (Original) The process of Claim 19 wherein the coupling of the heat spreader to the backside of the die comprises providing a heat spreader fabricated from a material having a coefficient of thermal expansion substantially equivalent to a coefficient of thermal expansion of the die.
23. (Canceled)
24. (Currently amended) The process of Claim ~~23~~ 19 wherein the substrate has, formed therein, a vent hole and the dispensing of the underfill encapsulation material ~~via~~ through the through-hole includes the release of air from between the die, the substrate, and the heat spreader through a the vent hole ~~in either the substrate or the heat spreader.~~
- 25-26 (Canceled)
27. (Original) The process of Claim 19 further comprising the attaching of mechanical reinforcements between the substrate and the heat spreader.
- 28 –35 (Canceled)
36. (New) A process of fabricating a microelectronic package, comprising:
providing a die affixed to a carrier substrate;

coupling a heat spreader to the backside of the die using heat conductive adhesive, the heat spreader including a plurality of pillars surrounding the die to shift thermally induced stress away from the corners and edges of the die to the pillars of the heat spreader, the heat spreader having formed therein a through-hole extending from a first exterior surface to a second exterior surface of the heat spreader, the through-hole configured to allow the flow of an underfill encapsulation material into a gap between the die, the substrate, and the heat spreader; and

dispensing of an underfill encapsulation material through the through-hole such that the underfill encapsulation material flows into a gap between the die, the heat spreader, and the substrate.

37. (New) The process of Claim 36 wherein providing the die affixed to the carrier substrate comprises a die affixed to the substrate with a plurality of solder balls disposed on an active surface of the die aligned with a plurality of bond pads disposed on an active surface of the substrate.

38. (New) The process of Claim 37 wherein providing the die affixed to the carrier substrate comprises providing a carrier substrate made of organic or ceramic material.

39. (New) The process of Claim 36 wherein the coupling of the heat spreader to the backside of the die comprises providing a heat spreader fabricated from a material having a coefficient of thermal expansion substantially equivalent to a coefficient of thermal expansion of the die.

40. (New) The process of Claim 36 wherein the heat spreader has, formed therein, a vent hole and the dispensing of the underfill encapsulation material through the through-hole includes the release of air from between the die, the substrate, and the heat spreader through the vent hole.

41. (New) The process of Claim 36 further comprising the attaching of mechanical reinforcements between the substrate and the heat spreader.